



# *The Earth Science* **DIGEST**

**OCTOBER 1961**

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## Mineral Quiz

Name the principal mineral for which these localities are famous.

Score: 5 - passing; 7 - good; 10 - excellent.

1. Bolton, Massachusetts and Grenville, Quebec, Canada.
2. Iyo Province, Island of Shikoku, Japan.
3. Kimberly, South Africa.
4. Great Bear Lake, Mackenzie, Canada
5. Ellsworth, Ohio.
6. Dundas, Tasmania.
7. Lancaster, Massachusetts.
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9. Thetford Mines, Quebec, Canada.
10. Thomas Mts., Utah.
11. Fannin County, Georgia.
12. Mt. Mica, Paris, Maine.
13. Ivigtut, Greenland.
14. Roxbury, Connecticut.
15. Wheatley Mine, Phoenixville, Pennsylvania.

Answers on page 20.

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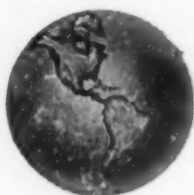
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## The Earth Science Digest

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R. B. Berry ..... Editor

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Vol. 1                      October, 1946                      No. 3

## Letters to the Editor

Gentlemen:

Enclosed is a money order in the amount of \$2.00 for a year's subscription to The Earth Science Digest. From the articles and appearance of your first issue I believe it will be a very progressive and interesting magazine as well as very, very educational.

Richard S. Mitchell,  
Box 612,  
Bayard, Nebraska

Dear Sirs:

Thank you kindly for the sample copy of the first issue of your magazine. It is a very nice magazine and we thoroughly enjoyed reading it from cover to cover.

Irene Morgan,  
Lander, Wyo.  
(to page 15)

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## Cover Photo

Subject of this month's cover photo is the Carrarra marble quarries at Carrarra, Italy. The white in the picture is not snow, but quarry waste dating back to the Roman empire! A check for \$5.00 goes to W. D. Keller of the University of Missouri who furnished this excellent photo.

Entries for the December contest should be in our office not later than November 10th. All photos must be on 6 x 9 high gloss paper and accompanied by name and address of sender.

## August Issue

We have exhausted our supply of copies of the August issue of E. S. D. We are having additional copies printed within a few weeks so that everyone who wrote asking for a copy will receive one.



Bladed, glassy and cleavage forms of Barite.

## Minerals of Missouri

By W. D. Keller

Minerals of Missouri have long interested collectors, hobbyists, and prospectors as well as geologists and engineers whose work is to develop and exploit mineral deposits for their commercial value. Some of the minerals are unique because they are known from only a few localities, and several because of the large tonnage of their commercial production. Attention will be directed to a few of the more interesting or special mineral occurrences.

One of the most unique Missouri minerals is the sedimentary diaspore (high-alumina fire clay) which is not produced commercially anywhere else in the world. Diaspore is  $\text{Al}_2\text{O}_3 \cdot \text{H}_2\text{O}$  ( $\text{Al}_2\text{O}_3$ , 85%;  $\text{H}_2\text{O}$ , 15%), but slight impurities of iron oxides, titania, silica, and perhaps a little alkali

or alkaline earths lower the  $\text{Al}_2\text{O}_3$  content of first grade diaspore clay to within the seventy per cent. It is used primarily in the production of high quality, high-alumina refractories (fire brick) because of its extremely high fusion temperature and resistance to chemical attack. Some diaspore also goes into abrasives. Thousands of tons are mined from open pits each year, the clay selling for more than \$10 per ton in the district at present. Its occurrence is restricted even in Missouri, for it is mined from only a few counties south of the Missouri River — Osage, Gasconade, Maries, Phelps, Franklin, and Crawford counties.

Local prospectors combine squirrel hunting and diaspore prospecting. Tales are told of hunters locating diaspore prospect on a farm-

er's land and then hiding the evidence and bargaining for the farmer to pay a reward, say \$50, to have revealed the prospect location. Other stories are of land owners who "salt" their property with clay brought in for the purpose of increasing its sale price or to encourage more thorough prospecting by clay miners or the large refractories companies.



**Typical Flint Fire Clay.** Note conchoidal fracture and grain.

Clay scouts rush into feverish action upon the least rumor or tip-off of a clay find. After a clay deposit is found, and even before it is found, the prospect area or the entire farm may be purchased outright or placed under option, only mineral rights purchased, or the property put under a lease. Leases are bought and sold, contested in court, or bargained, like the more spectacular oil and gas properties are handled in the petroleum industry. Some very exciting times are enjoyed in the rustic diaspora region where live the descendants of German, Swiss, and French settlers who still retain some of the atmosphere of the old country. Visitors will enjoy a trip on paved Missouri Highway No. 19 from the old German-type town of Hermann on the Missouri River, south to Owensville (about 30 miles), and east and west to Rosebud, Canaan, Bland, Belle, and Rolla.



**A small "dog tooth spar" calcite crystal from the Joplin region.**

The beautiful large, "dog-tooth spar", calcite crystals from the Joplin region are so famous among collectors and museums that little more need be said about them. The crystal rooms found in some of the Joplin region mines (not the common hillside crystal cave often opened for tourist inspection) are one of the most striking crystal occurrences in the geological world. Here large rooms, floor, ceiling, and walls are entirely lined with naturally inward-grown, sparkling terminated calcite crystals. Usually dolomite, and perhaps galena or sphalerite (black-jack, rosin-jack, or beautiful ruby-jack) may be associated with the calcite. Crystal rooms, as grottos, have been artificially assembled in a number of estates, parks, museums, and even church shrines, from Joplin crystals.

Beautiful marcasite cocks-comb crystal growths occur in the Joplin area, and the pearly, pinkish, curved dolomite crystal clusters are prized from the same region. The tremendous quantities of galena and sphalerite produced from the





Arrowheads crystals of Marcasite.

Tri-state area (Missouri, Kansas, Oklahoma) have furnished many museum specimens of cubical galena and glistening sphalerite. Of course the nation-leading production of lead does not come from the Tri-state region, but rather from South-Eastern Missouri in the Flat River-Fredericktown region where the ore is galena disseminated in sedimentary rocks.

Siegenite, (a sulphite of cobalt and nickel), a variety of linnaeite, occurs at the mine and town, Mine la Motte, in the southeastern lead district. It is reddish gray in color and can be easily distinguished from the sulfides with which it is associated. A black, earthy, oxidized cobalt mineral, "Asbolite", may be found with the siegenite. Both of these minerals are uncommon to rare. Glauconite in the Bonnetterre dolomite also occurs in the southeast Missouri lead region.

About twenty miles southwest of Fredericktown, along scenic Missouri Highway 70, and down to the resort on the St. Francis river, is Silver Mine where topaz, wolframite (iron manganese tungstate), fluorite, arsenopyrite, pyrite, sphalerite, chalcocite, and zinnwaldite (iron lithium mica) are found. A little cassiterite (tin oxide) was found in one of the quartz veins but it is not common in this area.

Quartz crystals in drusy form give rise to the "blossom rock" of southeastern Missouri which is prized as an ornamental stone. The Potosi formation which crops out near the town of Potosi is the source of "blossom rock". Here occurs the important barite ("tiff") producing region of Missouri, second in production in the United States. The region of "tiff diggers" has been the subject of several sociological studies published in news and book form. Besides the more common bladed, white, opaque, barite crystal clusters, there occur glassy, relatively clear, and blue tabular crystals and cleavages. Incidentally, in the southwestern Joplin region "tiff" is the term sometimes used for calcite.

Piedmontite, an uncommon manganese epidote, occurs in radiating and acicular bunches in the rhyolite just south of Annapolis. Millerite, nickel sulphide, is found in fine hair-like needles grown in geodial cavities in the limestone near St. Louis and opposite Keokuk, Iowa.



Missouri has certainly been blessed mineralogically and geologically.

All photos in this article were furnished through the courtesy of W. D. Keller and the University of Missouri Rocks and Minerals Bulletin.



The Devil's Bite

A cirque, a "cradle" or "birthplace" of a glacier. Near Lander, Wyo.

## Elements of Geology

By Robert B. Berry

Part III

### GLACIERS

The common glacier existing today is the valley glacier. In mountains several thousand feet above sea level snows may accumulate year after year until they reach a thickness of several hundred feet. Snow slides and also wind transport these huge snow fields into the valleys where compaction and recrystallization turn them into pure ice.

As these ice masses move forward rocks accumulate along the sides and bottom and are picked up to be used as tools of abrasion on the valley as the glacier moves downward. After a glacier has

eroded a valley it leaves a smooth U shaped valley form.

Glacial erosion is usually very slow, some glaciers moving only one or two feet daily. However a large glacier on Greenland moves at the rate of 75 feet daily.

When a glacier progresses downward to a certain point the warmth of the valley melts the ice as fast as it is replenished above and further progress down the valley is halted. As this melting front turns into water, outwash streams carry some of the ground up sediment of the

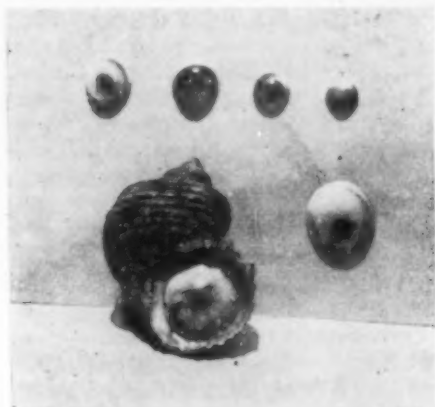
(To page 13)



## Catseyes of the Pacific

By Allen Graffham

The catseyes of the Pacific are as colorful as the Islands on which they occur. The blue-green stones of the Fiji Islands rival in beauty a suite of early Bisbee Copper minerals. These Fiji catseyes are the most beautiful of those that occur over the entire Pacific although lovely green stones of various shades occur on many other islands.



Shall we go diving for catseyes? Let me take you to Okinawa where I dived for catseyes not long ago. We are near the middle of the island on the Pacific shore. A rocky point extends out a few hundred feet into the sea and is connected by a coral reef with an island lying about a mile off shore. It is off the edges of this reef that catseyes are found. We put on our diving glasses and wade out into the surf. Near shore we cross a deep tidal pool by swimming, our faces in the water and the barbless fish spears which we carry always ready. The pool teems with fish but we are not out for fish today and are carrying the spears for protection only. We are also carrying a coral hook which looks just like our bamboo handled spears except that the tip is bent

under for hooking into the coral and holding the diver down on the bottom while working. We pass beds of waving sea weeds perhaps pausing to collect a choice cowrie shell.

Now the sea weeds are behind and we are standing in four to five feet of water on the living coral reef. The colors we see here are indescribable both in the living coral and the denizens of the reef. Brilliant fishes, some quite large, dart about and we notice with relief that there are no barracuda or shark on the reef today. An octopus draws back out of sight in a cavity in the coral and purple sea urchins wave their spines at us as we explore in search of the large snails which produce the catseyes. Other divers have picked most of the shells off the reef top so we search the pools in front of the reef where the water is twenty to thirty feet deep. At last we see our first catseye producing snail which is as large as our two fists and clinging to the side of a large coral head.

Here the water is deep enough so that the ears must be cleared on the way down to prevent bursting of the ear drums. We go down after a deep breath and hook our coral hook into the coral head on which the snail is fastened. Popping back to the surface and taking a deep breath we go down again to catch the waving handle of the coral hook and hand over hand let ourselves down to where we can grasp the catseye bearing shell, then loosening our hook we return to the surface. As we grasped the snail we saw a flash of color as he quickly retracted his body into his shell and now at the surface we look into

the opening of the shell and see the fine green catseye held there by the snails powerful muscles.

Back to shore with our morning's find, we lay the shells we have gathered out in the sun and wait for one to relax his vigilance so that we can slip a knife blade under the catseye and cut it free from the muscle of the snail. We give our snails thus treated to a native boy who assures us that they are "joto tobonga" (good to eat).

The stones we have thus collected are composed, as is the parent shell, of aragonite. Stones of many colors occur throughout the pacific area and different genera and species of shell produce different sizes and colors of stones. From the Philippines come red catseyes, from the Gilbert, brown ones; from the Carolines, brown with green centers. These are the contributions of the Pacific to your cabinet of gems. While new to Americans the Chinese have used catseyes for centuries both for ornaments and powdered as a medicine.

**Polishing** — Some difficulty may be encountered in finishing catseyes as excess heat causes cracks in the sanding process. This can be remedied by using the wet type sanding cloth which is also very useful in finishing cabochons of fluorite. Polishing is done on felt with either tin oxide or cerium oxide.

**Value** — Catseyes from the Fijis commonly sold for as much as twenty dollars each overseas to the souvenir hunting G. I. At present the same stones can be bought in the States for not more than \$3.00 each cut and polished. From this the price ranges down to as low as 35c for certain unfinished stones.

If you are looking for something beautiful and different, add a suite of catseyes to your gem collection.

## New Publication

The Chicago Rocks & Minerals Society has this month begun publication of "The Pick & Dop Stick." Editors of the magazine are Mr. and Mrs. Grand - Girard.

The Pick & Dop Stick will have articles on minerals, rocks and fossils. The lapidary art will be treated fully. This publication will be a welcome addition to the mineral field.

On November 9th, the society will hold an auction and raffle at the Sauganash Field House, 5861 North Kostner Avenue, in Chicago. Many fine prizes have been donated. These include cabinet specimens and polished pieces. After the raffle refreshments will be served. President of the Society is George C. Anderson. Arthur Sanger is Vice-president, Beverly LaBuda is secretary, Emil H. Anderson is Treasurer and Lucille Sanger is Curator and Librarian.

Non-members may subscribe to The Pick & Dop Stick for 50c per year. Write: Mr. Grand-Girard, 7738 Eastlake Terrace, Chicago 26, Illinois.

## Niagara Shaken

The town of Niagara, N. Y. was shaken by the collapse of a large limestone ledge on the American side of the falls on September 19th. The collapse was due to the undermining by water of the supporting sandstone strata. It is the largest collapse that has been noted in recent years.

## Did You Know?

Tourmaline is optically negative? Consequently facet stones should be cut with the table parallel to the vertical axis of the crystal. Since Tourmaline has no distinct cleavage this does not delete from the strength of the finished stone.

## Gold Strike Falls Through

Hundreds of gold miners streamed into Crescent City, California after word of a rich new gold strike by Tom Cronin and Harry Benick. The ore was said to have assayed at \$75 per ton. Unfortunately the assayer of the ore was using some revolutionary new method. Assayed by the conventional method revealed the ore to be worth about \$5 to \$10 per ton. Veteran gold miners who were skeptical about the strike merely shook their heads and smiled knowingly as word that the strike had fallen through reached them.

## Spicer Islands Re-Discovered

The Canadian government announced on September 10th the relocation of the Spicer Islands. This group of islands which was discovered by Captain Spicer in 1897 has been "lost" since its discovery. An airborne party from Montreal re-charted the islands, thus confirming the original Spicer discovery.

## New Catalog

The Gem Exchange at Bayfield, Colorado has just issued their 1947 catalog. An interesting feature of the catalog is the fact that green fluorescent ink was used. The Gem Exchange has always been noted for the diversity of their gem material. They stock material from many countries and their prices are very reasonable. As an example, they list a one ounce sack of gem pebbles from the Falkland Islands for 25c. Collectors or cutters who desire a copy of their catalog may have it by sending name and address on a penny post card to:

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### Beginner's Jewelry Making Sets

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Low priced sets will make two (2) to four (4) pieces of jewelry, higher priced sets will make more pieces and contain more valuable stones. Every set includes cut and polished gem stones ready to mount and all the silver fixings necessary, such as solder, bezel wire, safety catches, etc. Special features are earring and ring sets where bezel cups for setting round stones and ready-made ring shanks are included. As usual, we can supply fine agates or agate mounted pieces on approval, and brilliants, rounds, octagons, and ovals from all synthetic corundums and spinels.

Our specials are brilliants in American made Sapphire and Ruby at \$3.75 per carat or \$7.00 in matched pairs. Ruby in the popular 12x10 mm. oval buff top faceted base available at \$6.00 per stone. These last are beautiful gems that should be in everyone's collection.

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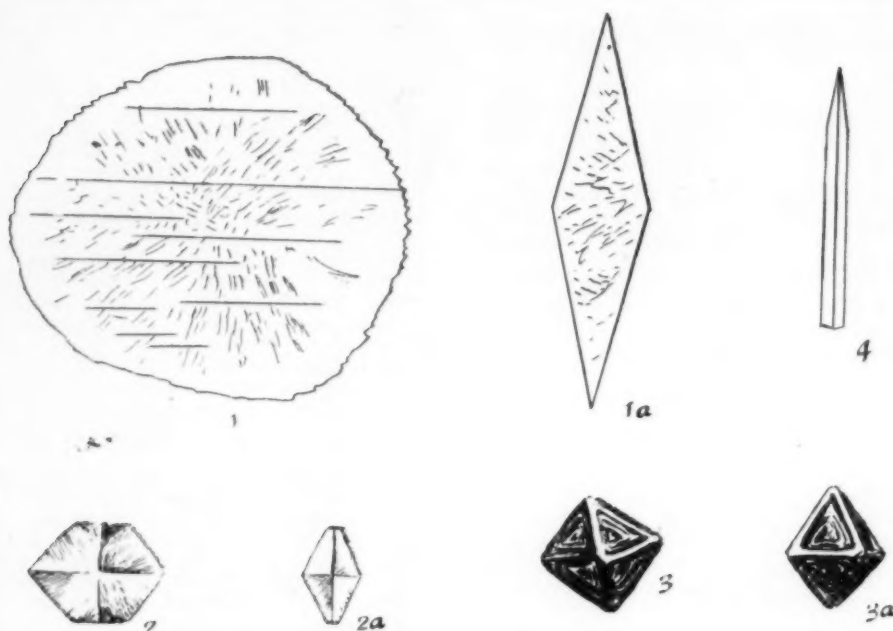
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## Notes on Some Kansas Crystals and Localities

by Allen Graffham

Very little has been written concerning the many fine crystal localities in the state of Kansas. In fact few people have ever seen the fine specimens that are available in a number of localities. Numerous new localities await discovery since so little has been done in the way of searching for minerals in this state. The reason for this is primarily the lack of mineral collectors in the state and also the lure of the more spectacular mineral producing areas just out of the state. Many local collectors do not realize that fine material is available and spend their spare time in searching localities in distant states. The gem materials of the state have suffered a like fate since the Author knows of several amateur gem cutters living within twenty miles of superb cutting material and importing all their rough from other states. In regard to these gem materials; Jas-

per, Agates, Chalcedonies, woods and other gem stones occur in Kansas quite as fine in quality as those produced in the western states. It is true that most of this material is in the form of water rolled bebbles carried into the state by Pliocene streams but never the less the gems are there.

### SELENITE

Kansas has been known to produce typical monoclinic crystals of selenite for many years but as far as is known by the author there is no written record of the type illustrated in Fig. 1. These discus shaped crystals are so highly modified that the crystal form is lost. These crystals are found in old pliocene lake beds in southwestern Kansas and are sometimes colorless but more often amber color.

The crystal illustrated in fig. 2 is

the same general type but shows the six sided habit of these flattened crystals. This type is found lining cavities in septaria of Cretaceous age in the Carlisle shale in Siney County, Kansas. The locality is near Kalvesta Lake. Superb specimens were found in one giant septaria which consisted of large globular calcite groups crested with numbers of selenite crystals. While the Pliocene crystals here illustrated sometimes reach a diameter of 12 inches or more the Cretaceous type seldom exceeds 1 inch.

### **OCTAHEDRAL PYRITE**

(Pseudomorph)

The octahedrons of limonite replacing pyrite from the locality at Lincolnville have been known for some time. Recently a new discovery near by produces the type crystal illustrated in fig. 3. These skeletal crystals occur in the Wellington shale of Permian age. The credit for the discovery of this new locality goes to Mr. George Emrich of Emporia, Kansas.

### **CELESTITE**

The uncommon type celestite crystal illustrated in fig. 4 is also found in the septaria of the Carlisle shale in the same area as the selenite crystal fig. 2. These crystals while small are interesting for their four sided form and are the first record of celestite crystals occurring in the Carlisle shale in this state.

Acknowledgments are due Bill Howe of Ottawa for drawing the plates used in this paper and to George Emrich of Emporia who first called the writer's attention to the limonite pseudomorphs after pyrite.

## **New Supply Firm**

Benedict P. Bagrowski and C. F. Dockstader have recently opened a new mineral and lapidary supply business in Milwaukee, Wisconsin. The firm's trade name is "The Gem-in-lap Mart".

Ben Bagrowski was formerly curator of minerals at the University of Kansas. Both men are veterans of the Pacific campaign, and well known in mineralogical circles. You will find their ad on page 14 of this magazine.

### **Beryllium Group**

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# CHARLES E. HILL

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**ELEMENTS OF GEOLOGY**

(from page 6)

glacier on down the valley, but the bulk of this material usually piles up in front of the glacier and becomes a **terminal moraine**. This **terminal moraine** may mount up to several hundred feet in thickness if the front of the glacier is stationary for many years. Also a terminal moraine may fill the entire valley as a natural dam and form a glacial lake.

In the Pleistocene period of the Earth's history, continental ice caps with their centers in Canada and Labrador, covered the northern half of North America and flowed as far south as Kansas.

The erosional factor of a valley glacier is multiplied many times in a continental glacier. Outwash streams are so large that huge boulders are carried in the stream channels and entire valleys are eroded out ahead of the retreating ice cap. Boulders commonly weigh hundreds of tons were picked up by the ice sheet and carried southward only to be dropped as the ice retreated north. Huge accumulations of boulders and rock flour are to be found at the southern extension of the glaciers. These too are terminal moraines and those in Kansas commonly contain Lake Superior

type agates which were transported there by the glacier.

Erosional features left by the glaciers are numerous and varied and cannot be covered in this short paper.

Continental glaciers exist at the present time, covering the Arctic areas of the earth. Large glaciers are also found in Greenland, Iceland, and Northern Alaska.

**Spurite**

Specimens of this rare calcium carbonate and silicate were recently mailed to our office by one of our readers. The specimens were of pale gray color with a beautiful lavender tinge. Since the hardness of this material is about 5 and cuts well it should find a ready place in the cabinets of cabochon collectors.

We have heard of this material being worked into ash trays and other ornaments in New Mexico and wonder that it has not found its way into dealers stocks before this. Our specimens are from the New Mexico locality and the mineral is known elsewhere only from Ireland, California and Mexico.

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INTRODUCTORY GEMOLOGY — Webster and Hinton	- -	3.50
PROSPECTING FOR GOLD AND SILVER — Savage	- -	2.75
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### Oklahoma Barite Hexagonal Shaped Rocks

This rock is very odd formation, flat with six corners, with a very novel mass on both sides. The supply is limited.

From 1 inch to 2½ inches across  
three for \$2.50 postpaid

One nice barite rose rock with  
each order

Read other ads in this issue about our  
Oklahoma Rose Rock.

### BERRY LANKFORD

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OKLAHOMA CITY, OKLA.

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Carnelian Agate	Sulphur
Black Obsidian	Readgar
Cinnabar in Opal	Orpoment
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Petrified Woods	Epidote
Jaspers	Nevada Wonder Stone
Turquoise	Chrystalized Spar
	Rhodenite

Rock Garden, Patio and Building Rock  
by car load lots

Write for wholesale and retail prices

When going through Battle Mountain,  
stop at the Nevada Hotel and see our  
display.

### C. A. HOLLIDAY

Battle Mountain, Nevada Box 234

## Advertisements

When answering ads in this magazine please mention "Earth Science Digest." This will enable advertisers to get an accurate check of the response they receive from the ads.

Thank you.

—Ed.

## LETTERS TO THE EDITOR

(from page 2)

Dear Sirs:

When I received the first issue of the Earth Science Digest I was pleased indeed. It is the very sort of magazine I have been looking for. I placed it with my National Geographic and other reference publications. I have sent in my subscription. It is indeed a fine magazine with wonderful material.

Robert Hodge,  
818 Locust St.  
Lawrence, Kansas

Gentlemen:

Believe you got off to a good start. I would like to pass on that R. B. Berry's article and H. H. Ninger's were very interesting and excellent. Best of success.

Dr. S. U. Marie,  
215 Walnut Ave.,  
Revere 51, Mass.

Gentlemen:

Congratulations and best wishes for success with your new publication. It has all others of its type beat. Please enter my subscription for 3 years. Check is enclosed

Rudy Jensen,  
General Del.,  
Sacramento, Calif.

Gentlemen:

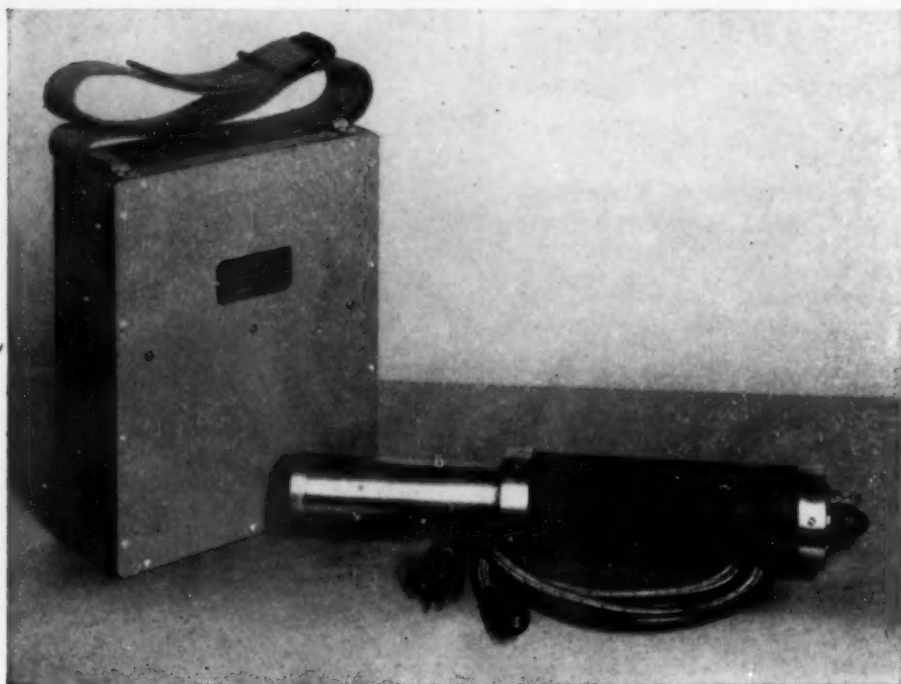
Your new magazine is quite interesting and timely. I enjoyed reading the first copy very much. It is highly informative and educational.

C. L. Philippus,  
714 W. 8th Ave.  
Denver 4, Colorado

Gentlemen:

Have heard very favorable comment about your new magazine. Should like to see a copy.

Rev. Felix Nolte,  
St. Benedict's College,  
Atchison, Kansas



### GEIGER COUNTER FIELD UNITS

We can now furnish three models of these field units. The price range is as follows:

Model GLP-213 . . . \$145.00

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Model GLP-214 is equipped with headphones for checking Gamma ray intensity by audible "clicks". Model GLP-216 is equipped with a rate meter. This makes possible quantitative computation of comparative radiation. Model GLP-215 is furnished with an electro-mechanical recording clock. All units will detect radiation equivalent to that emitted by .00002 milligrams of radium. This is the least amount of radiation that can be detected.

### HOW TO ORDER

Mail check or M. O. for unit plus postage to cover shipment of twenty-five pounds. Unit will be forwarded within forty-five days after receipt of order. Orders will be filled in the sequence in which they arrive.

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P. O. BOX 1750

OMAHA 4, NEBR.



## CLASSIFIED ADVERTISEMENTS

Rate 5c per word. Minimum advertisement \$1.50. All ads must be in our office on the tenth of the month preceeding date of issue.

### GEMS & MINERAL SPECIMENS

**SPECIAL:** 2 pounds of colorful Oregon beach gem cutting agates and jaspers, \$1.25 per lot postpaid. Less in larger quantities. Polished halves from \$1.00 up. Sawed but not polished, 75c. Petrified wood 50c per pound. Will do your diamond sawing for 10c per square inch. Lee Stradley, 8325 S. E. Mill St. Portland 16, Oregon.

**GEM CUTTERS:** Beautiful Agatized wood. Many colors, two pounds for \$1.00. 30c postage. Also Fossil Grass and large Selenite crystals at same price per pound. Write: L. Manning, Hettinger, North Dakota.

**SPECIAL**—10 Arizona Mineral Specimens, geode, thunderegg, etc. \$1.00 F. O. B. Please send cash with order. L. E. Baggs, Box 782, Peoria, Arizona.

Send for **FREE** beautiful agate. Write us what type of polisher you have available. Box 313, Casper, Wyoming.

Fossils, Gems, Minerals... Write The Western Geological Supply Co., Box 1750, Omaha 4, Nebraska.

**Oklahoma BARITE ROSE ROCK.** Nature's own formation of intricate petals of rose. Very interesting and novel! Superb cabinet specimens at \$1.00 per pound or 5 pounds for \$3.00 postpaid. Wholesale prices to dealers. Berry Lankford, 1137 S. W. 38th St., Oklahoma City, Oklahoma.

### MAPS — TREASURE FINDERS

Seventy land-sea lost treasures, geological data, map, pamphlet, signs, etc. George Patterson, 47 Elmira St., Brighton 35, Mass.

### FOSSILS

**WORM BORED WOOD** — INTERESTING petrified wood showing the borings of Teredo worms prior to silicification. Large and small specimens 25c per pound. No order for less than \$1.00. Oregon cloud agates \$2.50 per pound postpaid. Write R. F. Watson, care of A. L. Savage, Silverton, Oregon.

**BEAUTIFUL** Fern leaf fossils from the Pennsylvanian beds of Kansas. Three species for only \$1.00. Three species of brachiopods only \$.50. Five fossils mounted on cards with descriptive labels only \$1.00. Western Geological Supply Co., Box 1750, Omaha 4,

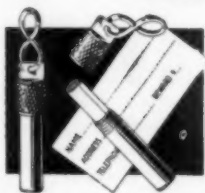
I have decided to sell my 132 piece collection of fossils from the Bad Lands of South Dakota. This collection consists of Ammonites, Bacculites, Scaphites, Nautilus, Turritellas, and Shark's fins. All fossils are of the best quality. Price \$600.00. Thomas Haskell, Jr., Box 75, Wasta, S. D.

### PREHISTORIC RELICS

I carry a fine stock of ancient stone relics. Also have fossil such as trilobites, ferns in pairs, etc. Some antique firearms in stock of the rarer types. N. E. Carter, Elkhorn, Wisc.

4 very fine ancient Indian Arrowheads \$1.00 — 4 tiny perfect bird arrowheads \$1.00 — 1 ancient stone Tomahawk \$1.00 — 2 flint Skinning Knives \$1.00 — 1 large flint Hoe \$1.00. 2 Spearheads \$1.00, 10 Arrowheads from 10 states \$1.00. 20 damaged Arrowheads \$1.00. 10 fish scalers \$1.00 — 10 hide scrapers \$1.00. 4 perfect Saw Edged arrowheads \$1.00. The above 11 offers \$10.00 postpaid. List free. Lear's, Box 569, Galveston, Texas.

## Miniature Identification Tubes



These little tubes will fit nicely on your key ring.

Each one is individually machined and will hold a slip with your name and address, phone number and other personal data.

Can be used on dog tags, bracelets, and personal property such as golf bags, guns, etc. Each tube has a high polish and is very attractive. Order several of them.

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1-pound lots .....\$2.50  
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Will trade for choice cabinet specimens. Write what you can offer.

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## ARIZONA AGATES & MINERALS

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Moss Agate, beautiful small pieces .85  
Pink Banded or solid BLUE Agate .50  
JASPERs,

Mustard colored - - - - - .35

All agate in the rough

Thick walled Geodes uncut 4 for \$1.00

**APACHE TEARDROPS**

Black Indian Gems. Take nice polish.

Stones 1/2, 3/4, or 1 inch

15 for \$1.00; \$2.00; \$3.00

Minimum order \$1.00

Also other Arizona Specimens

POSTAGE EXTRA ON ALL

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50 Ring Stones, including genuine and synthetic .....\$7.50  
Synthetic Rubies or Genuine Garnets, \$1.25 per carat.

Cameos or Opals—Genuine, 12 for \$3.75  
100 Jewelry Stones removed from rings, etc., \$2.40; 50 large ones, \$2.40.

12 Articles Antique Jewelry, rings, pins, etc. \$3.00.

500 Costume Jewelry Stones, \$2.00.

B. LOWE, Holland Bldg., St. Louis, Mo.



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10 lbs. - - - - - \$30.00

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Write for fine Western Minerals and the best apple green native jades.

**WYOMING MINERALS**

Box 266

Laramie, Wyoming

**THE CRAZY J-LAZY H**

YOUR FAVORITE FOSSIL, mineral specimen, or artifact mounted in a ring, brooch, bracelet, lapel pin or letter opener of sturdy STERLING.

SATISFACTION GUARANTEED

**The CRAZY J-LAZY H**

151 1/2 N. Tejon St.

COLORADO SPRINGS, COLO.

## Tall Tales of Fossils

By Oscar A. Anderson

A little knowledge may be a dangerous thing — but, sometimes it's simply comical. This has often been true when a modicum of earth science is bandied over pages of print.

A recent instance is the United Press story in newspapers about a green frog, discovered in New Mexico, which had lived in a state of suspended animation for at least 2,000,000 years and then hopped around when a workman's pick disturbed it in September 1946. At the same time, a lizard, which had been the frog's pal for those numerous centuries, showed such animation that the workmen killed it for fear of getting bitten.

Mixed with the action story was a liberal sprinkling of impressive eonic terms such as, "prehistoric time", "quaternary", "the Caliche formation", "consolidation of sediments", "geological clock of time."

This mixture of action and stand-still slowness is quite a reporting stunt. Such longevitiy tales about frogs, lizards, and horned "toads" come from the Southwest every few years. Old stories are dragged out for airing and a bit of touching-up.

My surprise is that Texans in particular should be so modest as to bother about small fry such as frogs in spinning their yarns. In Iowa, we go for size and boast of a petrified giant over ten feet tall with shoulders three feet in breadth. This Goliath didn't get up and walk when discovered, the way Southwestern fossils do; but, nevertheless, its debut into daylight was quite a success. Thousands and thousands of citizens, in the

sophisticated East, paid a mint of money to get a glimpse of the huge relic. Then P. T. Barnum, ever alert for better attractions, tried to buy the money maker for his own use. Failing to do this, he had a similar figure carved and made money displaying the imitation. In the meantime, box-office receipts were helped immeasurably by extravagant stories by newspaper men; scientists gave learned reports pro and con; ordinary folks testified, after having peeked at the super-man, "Nothing in the world can ever make me believe that he was not once a living being. Why, you can see the veins of his legs"; even the pores were objects of lively discussion. But, eventually, after pocketbooks and the flow of words had been milked dry, the giant was returned to his home at Fort Dodge, Iowa, where a gypsum quarry had contributed the stuff from which he was made. Either the southwestern frogs, or the pallid tales about them, will have to do a lot of growing to catch up with the Iowa story.

Personally, I take off my hat to an early American who furnished geology with one of its best camp-fire stories. Governor Dudley of the Colony of New York, as a learned Solomon of his time, was asked to explain an enormous tooth which had been found. It was very close to six inches in height, measured thirteen inches in girth, weighed two pounds and four ounces. In a formal written report, the governor repeatedly stated, "I am perfectly of the opinion it was a human tooth . . . I am perfectly of the opinion that the tooth will agree only to a human body . . ." He thought the owner of the lost tooth had been caught by the flood and had waded about until water and sediment finally buried him with other creatures who had missed the boat.

With human beings having their mouths studded with rows of six-inch teeth, there were giants indeed in ancient times. In comparison, the Iowa version is a midget runt and southwestern frogs are as puny fleas. Those were the good old days, in colonial times, when a tall story didn't need half as many fancy phrases as does a jumping fossil frog these days. You simply came out with your perfectly formed opinion and that was enough.



Attention Rock Collectors Everywhere!

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Modesto, Calif.

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Until January 1st we are offering a special subscription rate of \$1.50 to members of mineral clubs who subscribe in groups of ten or more. Pads of blanks will be mailed to club secretaries who desire them.

### **FOSSIL COLLECTORS!**

Send dime for our new catalog

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Box 1750

Omaha 4, Nebraska

## **MONTANA AGATE**

As near free of duds as possible

Hobbyist Special - 100 lbs. \$35.00

Fancy Colored - - - 10 lbs. \$10.00

Commercial - - - 10 lbs. \$20.00

Mens Ring Blanks - 12 asstd. \$18.00

Ladies Ring Blanks - 12 asstd. \$13.50

These rings are precision cast and are very easy to finish.

Send all orders to:

## **F. B. DUNHAM**

Box 493

Terry, Montana

## Paper Shortage

We were hit again by the paper shortage this month. We have been assured of sufficient paper to permit a big November issue. The November issue will feature articles by Victor Shaw, Jerome Eisenburg, Henry Andrews, and others. Also the long promised article about the Colorado Gem Colony at Bayfield, Colorado.

## ANSWERS TO MINERAL QUIZ on page 1

1. scapolite. 2. stibnite. 3. diamond. 4. uraninite. 5. gypsum, var. selenite. 6. crocoite. 7. andalusite, var. chiastolite. 8. garnet, var. almandite. 9. serpentine, var. asbestos. 10. topaz. 11. staurolite. 12. tourmaline. 13. cryolite. 14. siderite. 15. pyromorphite.

## Central Iowa Mineral Club

The Central Iowa Mineral Club met September 6th and elected the following officers: Pres., Paul Murray Work; Vice-Pres., Frederick A. Brown; Sec'y, Mrs. R. G. Hays; Treas.; Frank Sadilek.

The last meeting was held on October 4th. Melville D. Lumbard of the Lumbard Wholesale Jewelers explained and demonstrated the use of the Microscope, Refractometer, and Polariscope in Gem Testing.



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We can now furnish you with practically anything you need in Sterling Silver. A few items are still a bit slow coming thru but we have a good supply of most items on hand now. We can fill your orders more satisfactorily than any time since we have been serving you.

## NEW MATERIAL

We have a supply of Red and Brown Moss Agate from a new location. This material takes a nice polish and has good color. You will like this at only

**\$1.50 per pound**

### INDIAN DESIGN HAND STAMPS

for stamping silver

\$1.25 Each

### STERLING SILVER EARSCREWS

#51s — 50c pr. — \$2.10 dz .pcs.

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### NICKEL SILVER PINTONGS 1½, 2, 2¼

40c doz. — \$1.20 gross

### NICKEL SILVER JOINTS (to fit above)

16c doz. — 35c gross

### CATCHES

\$1.00 doz. — \$5.25 gross

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